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# USSR Report

AGRICULTURE

No. 1231



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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SOWING OPERATIONS COMMENCE IN UKRAINIAN SSR

Moscow DEJ'SKAYA ZHEZN' (in Russian) 9 Apr 60 p 1

(Article by B. Lysogor (Ukrainian SSR): "The Ukraine Commences Its Sowing Operations")

[Text] Cool weather and abundant snow cover over a considerable portion of the republic's territory continued to postpone the sowing period to a later time. The temperature is increasing rapidly at the present time and this is creating a great amount of tension out on the spring fields. The farmers are aware that they must carry out their work as rapidly as possible if their obligations are to be fulfilled, obligations which are higher than ever before. This year, 51 million tons of grain, or 3 million more tons than the figure called for in the plan, must be obtained in the Ukraine, 50.25 million tons of sugar beets and 2.50 million tons of sunflower and are to be sold to the state and more than 1 million tons of potatoes and in excess of 5 million tons of vegetables are to be produced. The livestock breeders have strong plans and thus a requirement exists for producing a considerably greater quantity of feed than has been the case in past years.

The republic's principal fields are the grain fields. In the planting structure adopted for this year, 17.7 million hectares or more than one-half of the entire area under crops have been allocated for the grain fields, the major portion (more than 10 million hectares) will be used for winter crops. More generous amounts of organic and mineral fertilizers have been applied in behalf of these crops than has ever been the case in the past; approximately 1 million hectares were prepared using the no-till plow method. Odeskaya-51, Mironovskaya 808, T-100ka and Begovaya 1 wheat, all of which are highly respected, will be planted on the largest tracts. More than 500,000 hectares will be occupied by Klyuchanka - an early-spring, lodging-resistant and highly productive variety.

In some oblasts the sowing of the crops took place under considerable fluctuations in the air temperature, which at times fell to critical levels. Organizational and agrotechnical measures have been outlined for the purpose of improving the growth of weakly developed plants. In particular, attention is drawn to the well thought out actions being undertaken by the

specialists in Odessa Oblast. They have prepared an agricultural setting for each field showing the density and extent of plant development, the degree to which they are supplied with nutrients and information on the presence of pests. The sowing crops were imported in advance in each area and just as soon as growth was resumed the workers began sowing them.

A spring top dressing is presently being applied to the crops in almost all areas. The farmers are carrying out this important agricultural measure in a creative manner. They are taking into account the pre-sowing and autumn applications of fertilizer and the nutrient requirements of each field. In the interest of shortening the schedule, extensive use is being made of aviation and ground equipment. On those areas where the plants are weakly developed, the use of heavy equipment - tractors and fertilizer distributors of the 800-type - is prohibited. Extensive use is being made of the root method for applying a top dressing.

Special concern is being evidenced this year for the corn crop. Not for this a random thing. During a recent agricultural production conference held in Khmel'ntiakaya Oblast, it was recognized that insufficient attention has been given to this very important grain-forage crop in recent years. The plantings have been reduced and the cropping power lowered. On many farms, organic and mineral fertilizers are no longer being applied, the sowing is being carried out late and the plantations are poorly utilized. Today the situation is changing - corn is now being planted for grain purposes on 2 million hectares in the Ukraine. The industrial technology for cultivating this crop has received general acceptance - it will be employed on an area of 380,000 hectares. In addition, corn will be produced on 136,000 hectares with minimal expenditures of manual labor.

Importance is attached to the fact that the All-USSR Breeding Committee has created the special Odesskyy 13/M hybrid for the industrial cultivation of corn. This is a variety capable of furnishing 65-70 quintals of grain per hectare and it ensures the same stalk height and same ear size and also proper ripening of the ears. The Odesskyy 80MV grain and forage hybrid will also make an appearance on this year's spring fields. It is drought-resistant and it became popular during tests carried out in various regions of the country. Using an accelerated propagation method developed by the plant breeders, apothecaries (specialized farms) in the Poltavskom'ye region, during last summer alone, developed a quantity of Odesskyy 80MV first generation seed sufficient for planting on 800,000 hectares.

Increased attention is required for the cultivation of grain crops, particularly millet and buckwheat. This is dictated by the fact that in recent years the plans for sowing these crops have not been fulfilled. But indeed a great amount of experience is available in the Ukraine with regard to obtaining high yields for both millet and buckwheat! Analysis has shown that grain crops produce low yields owing to the fact that proper responsibility is not assigned to them. They do not have a permanent

"market." In other words, they must be cultivated by specialized teams and detachments of machine operators and in accordance with a progressive technology. Greater concern must be displayed for the seed. Although the seed for the republic's spring grain cropping for the most part bears rated to first class quality, one-fifth of the buckwheat used is still considered to be sub-standard.

At the present time, there are more than 1.9 million hectares of irrigated land in the republic. On this land the leading farms are planting their grain crops, especially corn and also perennial grasses, including alfalfa which furnishes high yields of valuable feed under irrigation conditions. Unfortunately, this reserve is still not being simplified in all areas. Importance is also attached to expanding the secondary and intermediate plantings and, following the winter wheat harvest, initiating good yields of peas, soybeans, millet and buckwheat from the same areas.

In Vinnitskaya, Zapovednitskaya and Kirovohradskaya oblasts, the selection of seed from the state reservoirs has still not been completed. In Krymskaya, Kirovogradskaya and certain other oblasts, not all of the sowing and cultivation and sowing units have been staffed with two shifts of machine operators. Although these are exceptional shortcomings, nevertheless if they are not corrected they can adversely affect the tempo of the field work being carried out. The sowing operations have already commenced in the northern part of the republic and the extent of such work is expanding with each passing day. A top priority is being applied to the winter crops in almost all areas.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### MOLDAVIAN CROP PROGRESS REPORTED

Khabarovsk BOVETRKAJA MOLDAVIA To Rostov 19 Feb 38 p 7

ARTICLE: "February 'Windows'"

Text: At the present time the winter crops in more than half of the sown area are in good condition. And only on the tracts which were sown late are the plants in the phase of the third leafing and of the beginning of tillering.

January proved to be colder than usual by one to three degrees with a variation in the minimum air temperatures in the various areas of the republic in the range of -17° to -26° and on the snow surface -16° to -29°. However, the existence of a snow cover on the preponderant part of the territory prevented a lowering of the soil temperature and the depth of tillering below the critical limit.

Thus, the winter crops on the whole in all of the republic's zones are wintering well, and there has been practically no destruction from frost. However, nature is capable of producing more than one "surprise" before the beginning of the spring vegetation, and for this reason it is necessary to conduct constant observations of the state of the crops. On 25 February the regular time for selecting model plots will be open up. In those places where the snow cover has come off as a result of the thawing of the soil which began during the first ten days of February (especially on wheat crops) no-till fertilizing should be performed at the rate of 45 to 60 kilograms of active nitrogen substance per hectare. Crops which have thickened out well and which did not receive the recommended dose of fertilizer during the fall soil preparations or during sowing are best fertilized in spring when the soil has matured with snow at the depth of the tillering node with 30 to 45 kilograms of active nitrogen substance per hectare.

In performing these operations special attention should be given to observing the recommended doses and to an even application of the fertilizer in order to eliminate strips which have already become "islands" on which the crops suffer from too much fertilizer. For early spring

Fertilizing: all types of nitrogen fertilizers should be used except urea (carbamide) which should be left for the final top fertilizing. Farm spectators and leaders have to take care of putting up a sufficient quantity of 2,4-D herbicides to treat poorly developed late winter cropped plantings against weeds, windfall, and flowers, and, especially, gorse thistle.

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## RAZOR CROP PROGRESS AND WEATHER REPORT

### PROGRESS IN RAZOR CROP PROGRESS REVIEWED

Moscow, TASS. In Riazan, 6 Apr. - 80 p. 1

(Article by G. Levchenko, Editor of the Rayon newspaper "ZEMLЯНЧАК" ("The Farmers Will go Out into the Fields")

Friend! The winter this year was a cold one. At the beginning of April there was still frost at night and the snow had not entirely come off. But farmers know that spring can suddenly come into the nights and then you have to work hard to keep up with it. The grain growers of Voronezh Oblast have adopted high and rather committal: to obtain 17 quintals of grain per hectare and to create a year and a half's supply of feed. Quite a bit has already been done to fulfill these commitments. The winter crops were sown in the fall at an optimal time on an area of more than 30,000 hectares. The land has been sown with the regionalized and frost-resistant wheat seeds "Borovschanka," "Domalaya na Talya," "Sverodonetskaya," and the new springtime variety "Zernogradka 2" which produce high yields.

Quite a bit was done during the fall and winter to take care of the crops and soil surface. Tillage was performed on an area of more than 19,000 hectares and some retention structures were built. Nevertheless, the cold and relatively free from snow December of last year made the corrections. In order not to end up with a misallocation the agriculturalists are digging a snow cover on the fields and checking the state of the crops.

There are no final conclusions yet, but in expectation of reducing every farm by increasing the amount of spring work by 20 to 25 percent the necessary stock of seeds for sowing created for this and the amount of sowing equipment for sowing increased.

In order to successfully perform the spring field work eleven mechanized complexes have been created in the rayon which contain 73 detachments of teams for the preparation of the soil, the delivery of seeds to the fields, and also for the technical servicing of the equipment and cultural and domestic services. These complexes are headed by the notable Farmer

of the Leningrad Oblast, from the Kirov, Tver, and Vologda Oblasts, A. P. Klyushnikov and D. V. Pervozov from the "Pribor" factory, V. Shchukin from the factory "Krasnyy Obryad," and others. Special attention is being given to high labor and excellent quality in the work. Quality practice, deputy practice, and people's control posts are being created on all of the farms of the rayon.

The party committee together with trade unions, organs of local and farm leaders have made up and given to all the farms which will be working in the spring plan for organized local and other public work and the conditions of the socialist competition. These plans provide for a wide use of moral and material stimuli. The farms will be organized for the participants in the spring meeting.

In the system of cultural education alone the rayon's farms have trained 1,770 mechanics and operators for tractor units. And this means that at the spring meeting the equipment will be used to one and a half the ability. This is why it has been decided to perform the sowing of grain crops in 60 to 70 farms.

In addition to grain crops, the rayon is working intensively on raising corn for grain. The main general tasks are as follows: the chief one is that these need to implement socialist competition in keeping with a fundamentally substantiated norm. In fact most by only 40 percent.

And more. An industrial technology of cultivating grain corn is becoming increasingly widespread in the oblast. This requires modern equipment and technology. But the oblast agriculture administration has not even put the rayon in the twelve supply plan.

The land preparations for the field work are taking place on the farms. Sowing plans are being made more precise and mutual checks on the readiness of farms, teams, and farms are being performed. The Vsevolozhsky Farmers are ready to meet the spring fully armed and to achieve the highest yields of grain and feed crops during the concluding year of the tenth Five-Year Plan.

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### FIELD WORK PREPARATIONS NEARING COMPLETION IN ROSTOVSKAYA OBLAST

Moscow TRUD in Russian 6 Apr 80 p 1

[Article by G. Levchenko, editor of the rayon newspaper ZORE MANYCHA, Veselovskiy Rayon, Rostovskaya Oblast: "The Complexes Are Being Moved Out Onto the Fields"]

[Excerpts] Winter turned out to be very prolonged this year. The beginning of April and frosts were still occurring at night. Nor had the snow completely disappeared. But the farmers know that spring will make itself known unexpectedly and that at that time we will have difficulty keeping pace with it.

The grain growers in Veselovskiy Rayon of Rostovskaya Oblast have undertaken high socialist obligations: obtain 32 quintals of grain from each hectare and create a one and a half year's supply of feed. A great amount of work has been carried out in the interest of fulfilling these obligations. In the autumn and during the optimum periods, winter crops were sown on an area of more than 30,000 hectares. Seed for the regionalized and frost-hardy Rostovchanka, Donskaya-Ostistaya and Severodonskaya wheats and the new and promising Zernograd ka-2 variety, all of which produce high yields, was placed in the ground.

A great amount of work was carried out during the autumn and winter months in connection with tending the plantings: root and surface top dressings were applied to an area in excess of 19,000 hectares and also snow retention work. But nevertheless the month of December last year, marked by cold weather and only a limited amount of snowfall, introduced its own corrections. In the interest of avoiding miscalculations, the agronomists are moving aside the snow cover on the fields so as to be able to check the status of the winter crops.

Although no final conclusions have as yet been drawn, nevertheless each farm, in a computation for resowing, is increasing its volume of spring work by 20-25 percent. Towards this end, the required supply of seed is being created and the number of sowing units is being increased.

In addition to cereal grain crops, the rayon is intensively engaged in the growing of corn for grain. The corn growers have many problems. Their chief problem -- their requirements for mineral fertilizers, which are based upon scientifically sound norms, are being satisfied by only 50 percent.

There is still one other problem. The industrial technology for growing corn for grain is being employed more and more extensively throughout the oblast. This requires modern equipment and herbicides. But the oblast agricultural administration has not even provided the rayon with a plan for acquiring herbicides.

The last preparations for field operations are being carried out on the farms -- the work plans are being refined more precisely and mutual checks are being carried out on the readiness of the teams, brigades and farms. The Voselovskiy Rayon farmers are fully prepared to welcome spring and to achieve high yields for their grain and forage crops during this final year of the Tenth Five-Year Plan.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SEED PREPARATION PROBLEMS IN KRASNODARSKY KRAY

Moscow PRAVDA En Russlan 26 Feb 80 p. 3

[Article by V. Prokushov (Krasnoyarsky Kray): "Stored Away for Sowing Purposes"]

[Text] Winter ground winds are still blowing across the Siberian fields. But at mid-day the sun warms the ground, reminding one of the approaching spring period. The Krasnoyarsk grain growers are making preparations for their spring field work. A great volume of work must be carried out in the future. The kray's grain and pulse crop farmers alone must sow their crops on 2.3 million hectares.

One of the principal concerns of the farmers is their seed. On a majority of the kray's kolkhozes and sovkhozes, a high level of responsibility is being displayed with regard to the preparation of the seed. For example, the farms in Achinskyy, Ternakovskyy and Shushenskyy rayons achieved 100 percent preparation of their seed back during the autumn months. All of this seed is either of first or second class quality. Concern has also been displayed for the gold fund of the harvest in Sharpyovskyy Rayon.

"sufficient seed has been laid away for all of the crops" stated an agronomist attached to the local state seed inspection, N. Myasoyedova, "for the most part, all of this seed meets the standard requirements."

The farmers at the Ivanovskyy sovkhoz are achieving a high culture in their work with seed. Careful thought was given in advance here to the arrangement for the seed plots and to ensuring that the best fields and most favorable predecessor crops were made available for them. At the present time, 1,600 tons of grain are being stored in warehouses for sowing purposes. The lists established here testify to the fact that this seed has undergone laboratory inspection and is fully quality standardized in terms of germinative capacity, moisture content and purity.

"We are making extensive use of reclaimed land for the growing of grain crops" stated the sovkhoz director, N. Okhrimchak, "we are obtaining good

fields. The carrying out of strict cultivation work with crops is proving to be of great assistance with regard to increasing the return being obtained from the grain fields.

In addition to Orel variety, the traditional variety for this region, the farmers have begun cultivating the Izhina variety. It furnishes 25 and more quintals of grain per hectare. But we are not neglecting Orel, since it has its own particular advantages.

However, proper concern is not being displayed in all areas with regard to preparation of the seed. For example, let us take Nizhneovzhiksky Rayon. Here there are very extensive grain fields and this imposes a great amount of responsibility on the seed production workers. But not all of them have organized their work to a fine manner. The quality of the sowing stock is worse here than in Sharapovskiy Rayon, which competes against Nizhneovzhiksky Rayon. Thus the Kutsyayevskiy and Avangard sovkhozes prepared only 60-70 percent of their seed grain. Nor was the situation any better at the Pavlovskiy sovkhoz. It bears mentioning that it was not too long ago that this farm occupied a leading position. People came here to acquire experience and, in particular, to learn how to work with seed. But today the grain growers have fallen behind. Last year, an extremely favorable one, they harvested less grain per hectare than the average for the rayon. This is the result of a low level of farming culture and of a deterioration in seed production operations. Hundreds of tons of seed here are non-standardized in terms of germinative capacity, moisture content and purity.

"We lack drivers at two branches," explained A. Ruday, an agronomist seed producer. "Thus we store the grain while it is still damp."

The justification is not very convincing. During the autumn there were three drivers in operation at the sovkhoz and they were capable of handling all of the grain. There was also sufficient grain cleaning equipment. It was obvious that the problem derived from other factors - a sluggishness and intransigence.

Similar situations prevail at a number of sovkhozes and kolkhozes in Abanayev, Nizhneovzhiksky rayons. For the rayon as a whole, approximately 10 percent of the grain and pulse crop seed checked following cleaning did not meet the state standards for quality. This was worse than at the beginning of February last year. The agricultural organs must draw the proper conclusions from these facts and participate more actively in the course of events. Full advantage must be taken of every opportunity for augmenting and improving the seed fund. In particular, importance is attached to organizing the Extra and Inter-rayon exchange of seed and, with the onset of the spring thaw, the hot-air warming and disinfection of the seed.

You reap what you sow - this truth is well known. Today this truth should be recalled by those who fail to display timely concern for the gold fund of the harvest.

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### STAVROPOLO'KSY KRAY GRAIN PLANS, SPRING FIELD OPERATIONS DESCRIBED

Moscow SEL'KRAYA ZHEN' 16 Russian 6 Apr 80 p 1

[Article by N. Timofeyev (Stavropol'kny Kray)]

[Excerpt] The lands of Krasnogvardeysky Rayon, one of Stavropol'kny Kray's leading rayons, lie to the northeast portion of the kray. This year the farms in this rayon plan to sell 175,000 tons of grain to the state considerably more than the figure called for in the plan.

Prior to the commencement of field work in the rayon, 118 tractor operators underwent training and 65 sowing complexes were created. Conditions were developed for a competition. Discussions were held in each farm on the new system for determining the quality of work. Today a machine operator turns over his work and an agricultural evaluator it based upon a 3-point system. If the evaluation is "Excellent," then the machine operator receives a 10 percent increase in his wage scale. If bears monitoring that uniform rates have been introduced for all farms in the rayon. If work is carried out in a low quality manner, then the responsible machine operator is required to do it over again.

such a system was employed in connection with the transporting and applying of fertilizers. And the results were immediately apparent. More than 500,000 tons of humus have already been move out onto the fields. This is equivalent to the amount supplied to the ground during all of last year. The figure "1 million" appears for the very first time in the rayon's obligations. This represents the number of tons of local fertilizer to be applied to the kolkhoz and sovkhoz arable land during the final year of the five year plan.

This year the farmers in Tsimlyansky Rayon plan to obtain 27 quintals of grain from each hectare and to sell 70,000 tons of strong and valuable wheat to the state. The work plan called for 48,600 hectares of autumn plowed land to be harrowed in a rapid manner and for early spring crops to be sown on an area of 4,600 hectares and perennial grasses on 10,700 hectares. Thirteen sowing complexes were created in advance for the

purpose of ensuring that the work was carried out in a high-quality manner. The 100 party committees assigned 300 economists and 100 economists to these committees and the created party groups. Certification of the chief agricultural and department heads was carried out by a special committee.

Just as soon as it became possible to do so, the sowing units were moved out onto the fields. At the Donskaya sowing, during the period of the February "window," an additional sowing of wheat was carried out and the autumn plowed land harrowed and, at the present time, the work concerned with applying a top dressing to the winter crops and sowing the pulse crops to nearing completion. The principal task of the sowing agricultural service is that of obtaining 11,210 tons of feed units. At the Sowing Bureau Kirov, 100,150 hectares of pea, oats and soybeans were sown daily on a selective basis. At the present time, all efforts are being directed towards applying a top dressing to the wheat.

The delayed spring allows no time for sluggish actions. Commencing with the very first days of spring, a majority of the kray's rayons and towns have been characterized by a high work tempo and this has made it possible to apply a top dressing to 1.6 million hectares of winter wheat and to sow the spring crops during the best periods. The farmers are competing to obtain, during the last year of the five-year plan, no less than 26 quintals of grain per hectare, to raise the gross production of grain to 6.6 million tons and to grow and procure 1.05 million tons of sugar beets and 150,000-170,000 tons of corn. This task lies within the capability of the grain growers in Stavropol'krai.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### BRIEFS

**CORN SEED SHIPMENTS** Voronezh, 8 Apr - The collective of the seed grading department at the Research' elevator has completed the preparation of corn seed for sowing. Approximately 1,000 tons of the amber grain, sorted by fractions and chemically disinfected, have been shipped to farms throughout the oblast. According to laboratory data, 80 percent of the seed is categorized as being in the first class of the sowing standard. (Text) [Moscow SSSR 'SOVETSKAYA ZHIZN' in Russian 9 Apr 80 p 1] 7026

**SOWING OF EARLY GRAINS** Voronezh - A check on the readiness for spring sowing operations has commenced on farms in Pavlovsky Rayon - one of the oblast's southernmost rayons. A public committee has assigned a high grade to the work performed by the Druzhba Kolchoz. The decision was made to complete the sowing of early grain crops in just 70 working hours. (Text) [Moscow SOVETSKAYA RODNAYA in Russian 25 Mar 80 p 1] 7026

**AIRBORNE TOP DRESSINGS** Belgorod - The "winged grain growers" - pilots from Belgorod, Kursk and Smolensk - have commenced applying top dressings to the winter crops on a mass basis. Mineral fertilizers are being applied to those wheat and rye fields on which the snow has disappeared. (Text) [Moscow SOVETSKAYA RODNAYA in Russian 25 Mar 80 p 1] 7026

**HARD AGRICULTURAL PLAN** Yoshkar-Ola, 8 Apr - The farmers in the Bash ASSR have vowed to obtain 18 quintals of grain per hectare this year. Almost 17,000 machine operators are preparing to go out onto the fields at the present time. All of the sowing units will be operated in two shifts. Towards this end, approximately 5,000 individuals are studying and improving their skills at 15 professional-technical institutes and their branches and departments. Workers from plants in the city of Yoshkar-Ola are mastering the profession of tractor machine operator. (Text) [Moscow SSSR 'SOVETSKAYA ZHIZN' in Russian 9 Apr 80 p 1] 7026

**WINTER CROP TOP DRESSING** Chelyabinsk, 8 Apr - last autumn the farmers in the Chuvash ASSR over-fulfilled their plan for sowing winter crops. The best regionalized varieties were used - Mironovskaya-808 winter wheat and Saratovskaya-4 rye, which produce high yields in the non-chernozem areas. The status of the crops is fine in all areas. The work of applying a top

described in the upper document. The same amount of the fertilizer is applied to the field. The first to come out on the field were the cereals - Barley in Khatyrsky, Barysovsky, Chumakovsky and Tashlykovsky districts. The technique of planting the barley grain and a small amount of a mixture of nitrogen and phosphorus fertilizer. (Text) (Message #170707 to Bishkek 9 Apr 00 p 1) (2)

**HYDROPERCOLIC CROWN FODDER** Barley, 7 April 2000 has disappeared from the districts and to the pig raising facilities of the working farm funds. There is an abundance of green grain feed. It is being grown using the hydroponic method. Barley and rye are being grown for the purpose of obtaining a top dressing. The plants are eliminated by flammes and lighting. The fodder can be fed to animals 10 days after it was sown. The top dressing is applied at the sowing from artificial machines. It is fed to 1/2 month old young pigs with an additive mixture of 10 pounds to the ton. The average daily weight increase of the animals is 100 grams. The animals develop normally and quickly. Diseases do not lesser degree. Burns throughout the district are using the fodder obtained by means of the hydroponic method for preparing a vitamin powder for adding to the livestock feed. (Text) (Message #170707 to Bishkek 9 Apr 00 p 1) (2)

**ORGANIC FERTILIZER AND FERTILIZER** According to information from Bishkek there is a plan for applying organic fertilizer ahead of fertilizer. Approximately 1000 tons of peat compost were mixed with manure in the fields. The organic materials were delivered to agricultural districts consisting of more than 1,000 tractors and motor vehicles. The machines operating have organized to apply some three and fifteen tons of fertilizer to the districts and over the plan. (Text) (Message #170707 to Bishkek 9 Apr 00 p 1) (2)

**DIFFICULT WINTER CONDITIONS** Bishkek 9th. The livestock breeders in the Khatyrsky district could not recall a more difficult weather period than the one experienced this year. A long winter which arrived in a record of a month, disrupted, prolonged cold weather, heavy snowfall and other aspects of the weather required an extreme adaptation to the pattern of the farm workers. At the present time, the young flock are facing an optimal diet in the district position. The sheepfolds and herdsman must provide and take more than 1 million lambs and a lamb 100,000 lambs. (Text) (Message #170707 to Bishkek 9 Apr 00 p 1) (2)

**KHABAROVSK KRAY FARM CONDITIONS** Bishkek 9th. April in the southern part of the Primorsky region, to the zone of the Baskat and Tunkinsk, the temperature falls at night to minus 20 degrees and in the northern rayon of Khabarovsky Kray the long period of spring field work has already commenced. The grain growing in Olenyovskiy and Tunkinsk rayon has been greatly disrupted because of the lack of fields. Tunkinsk district has performed during the spring period of the first year of the first year plan work to the number of the farms a competing increase. The Tunkinsk district has held a record of the last 10 years. All of the working complexes

are needed by experienced specialists. This year the grain production is aimed to obtain more than 17 quintals of grain per hectare. All of the required conditions are available for accomplishing this. High quality standardized seed and mineral fertilizers are available and the sowing and seed sowing equipment has been prepared. Special attention is being given to the quality of the field work being carried out. The grain crops are being sown using the sown or close-drill sowing methods and with simultaneous application of mineral fertilizers and picking of the soil (fertil). [Moscow 1957 "RASSAYA ZHEZN" in Russian 6 Apr 80 p 1] 7026

**AKHARKHAI' RICE CROP PREPARATION.** By the beginning of the sowing the number of rice growing plots and farms in the district had increased to 100. It is to be connected with a further expansion of planting of the winter grain in the Volga Akharkhaiskaya flood plain. They will occupy 40,000 hectares. Intensive preparatory work is now being conducted over the entire area. The main leaders are on the alert. For now the land improvement specialists who put the irrigation system into working order are repeating the hydrotechnical installations. [Text] [Moscow 1958] in Russian 8 Apr 80 p 1] 7059

**STAVROPOL' GRAIN CROP.** The Stavropol' mechanization experts have begun the fertilization of the winter grain crops in accordance with the new technology - with the root application of mineral fertilizers by means of the experience of advanced kolkhozes and sovkhozes in conducting about the effectiveness of this agricultural method. Last spring almost one fifth of the wheat crops were fertilized in this manner. In the kolkhoz the additional yield compared to scattering granular on the soil surface exceeded three quintals per hectare. This year it is planned to fertilize the crops on an area twice as large as last year's by the root fertilization method. [Text] [Moscow 1958] in Russian 8 Apr 80 p 1] 7059

**ZHARHAI' CROP WORK.** The cold field in the lower Volga, but on the kolkhoz "Zarya Komsomola" in Zharkaiskay Rayon, without waiting for the warm weather, the fertilization of the winter crops and of perennial grasses was begun. The work is being performed by a mechanized detachment. The mechanization specialists are putting 1.5 quintals of fertilizers on each hectare of winter crops and 7 quintals on the grasses of past years. Within a few days the farmers fertilized all of the winter crops and almost one half of the perennial grasses. Other farms in the rayon have also begun this work. [Text] [Moscow 1958 "RASSAYA ZHEZN" in Russian 6 Mar 80 p 1] 7059

**CHETKEV PREDKOLKHOZ.** The farmers of the Chetkev ASSR are beginning the spring field work. On the southern farms, where conditions permit, selective irrigating is being performed and the aircraft crews of agricultural aviation are fertilizing the winter crops. Mineral fertilizers

have already been applied to 4,000 hectares. The work plans for the spring sowing provide for a further expansion of the tractor experience in sowing equipment. Two hundred sowing detachments have already been formed, and many farms have obtained qualified guidance in the system of agricultural and technical education and amateur courses and in the use of mechanization equipment education for tractor work by the equipment. It has been planned to use the early sowing crops in the republics in a short period of time - in 100 hours. (Text) (Moscow BESCHAYA ZEIZH) In Russian 7 Apr 80 p 11 2959

**KHAB'KOV CROP PREPARATIONS** The oblast's sugar-beet farmers have completed the formation of sowing detachments. The mechanization experts will have to occupy the largest area in recent years with sugar-beet seeds - 100,000 hectares. All of the sowing equipment has been carefully repaired and adjusted. Production teams which were disbanded in the Ukrainian Research Institute of Agricultural Machines Building will be widely used for the first time in Krasnodar oblast, Kirovobod, Vologodsk, and other rayons. The new mechanized planer dredge in the ground in a much more even manner, which later makes it possible to reduce the amount of the labor-consuming work of cleaning out sugar-beet. (Text) (Moscow BESCHAYA ZEIZH) In Russian 8 Apr 80 p 11 2959

**UKRAINE PULSES** All of the farms of Ukraine have been supplied with tubers of high-yield varieties of potatoes. They have been given a great deal of help here by their traditional partners in an effort competition - the farmers of Belgorod who have shared with them the "Zigonyak" variety which has given an excellent account of itself. This spring it will occupy one-tenth of the republic's potato fields for the first time. The chief supplier of the seeds of these promising varieties has been Vologodsk Rayon where the tubers and tubers which are sown and in the production of seed potatoes are basically concentrated. (Text) (Moscow BESCHAYA ZEIZH) In Russian 8 Apr 80 p 11 2959

**OBSEA WINTER CROPS** The farmers are using every favorable day for first for the winter crops and to prepare land for tillage. Every day as many as 30 airplanes and helicopters of agricultural aviation and hundreds of tractor drivers are busy with the application of manure and the transportation of organic fertilizers. In Belgorodsk, Luhansk, Dnipropetrovsk, and Chernobyl rayons the arrangement for fertilizing the winter crops has already been established. (Text) (Moscow BESCHAYA ZEIZH) In Russian 7 Mar 80 p 11 2959

**IVANOVA OBRAZ COOP OPERATIONS** The fertilizing of the winter crops with nitrogen fertilizers is in full swing in the oblast. Within eight days covered by soil on the fields the mechanization experts are applying fertilizers to the sowing ground with the help of manure. The farmers are often being helped by the efforts of agricultural aviation. This work of fertilizing performed in an organized manner on the fields and

workforce of Rustamkhanly, Nurovly, Karmakor, Bagaly, and Nurovly Rayon where all the tillage work of the winter grain crops have already been fulfilled. In the average, tillage has already been applied to every third hectare in the oblast. [Text] [Russo] RPP'RAYA ZERZER' In Baku 19 Mar 80 p 11 2059

CHIRVOV RAYA OBAST CROP PREPARATION. All of the measures regarding increasing soil fertility and protecting plants against weeds and pests have been taken up at the Baku region by detachment of the Chirvovaly oblast "Tsel'khokhokh" Production Association. The newly created subdivision immediately employed progressive methods of organizing labor which have at their basis the experience of the Talysh workers. In order to fulfill large orders from kolkhozes and sovkhozes the detachment with their efforts for a specific period of time, thanks to the the equipment to function better and the work to speed up and performed with better quality. Thus, in most of the rayons, the management of the first two months of this year to deliver tillage to the fields was fulfilled by 100-160 percent. [Text] [Russo] RPP'RAYA ZERZER' In Baku 6 Mar 80 p 11 2059

ARMENIAN PLOUGHING. The farms of the Araratkazaz Valley - the gateway of Armenia - have completed the sowing of early potatoes in a brief period of time. The mechanization experts were helpful in performing the work in ten days by equipment which had been readied in time and by a scheme of the Talysh method. The planting of the tubers was rapidly completed by the farmers of Masaliky Rayon - the republic's second leader for the harvesting of this crop. Seeds of only high quality have been put into well fertilized soil on an area of more than 10,000 hectares. [Text] [Russo] RPP'RAYA ZERZER' In Baku 8 Apr 80 p 11 2059

CHIRVOV CROP PREPARATION. The delayed spring demanded that the entire amount of spring work - the sowing of early grain crops and grasses and the preparation of the soil for corn, rice, and other late crops - be performed almost simultaneously. In view of the situation, it was necessary to make urgent corrections in the plan and to seek reserves for increasing the productivity of each machine. At a meeting of the oblast party aktiv it was decided to complete the sowing of the early grain crops in two to three days and to perform the field work around the clock. In order to help the field workers additional tractors and transport vehicles were sent to the kolkhozes and sovkhozes from cities and workers' settlements. The farmers of the farms have committed themselves to obtain during the crop sowing year of the tenth Five Year Plan 17.9 quintals of grain per hectare and to bring the grain grain harvest to 2,100,000 tons. As early as the fall a good basis was laid here for the future harvest. Winter crops which produce the basic grain in the oblast occupied an area of 600,000 hectares. And what is important is that the difficult weather conditions which did not permit the performance

of work to prepare the sowing crops for sowing were made full use of here for fertilizing the crops. With the help of aviation and land methods of nitrogen fertilizers were applied to 500,000 hectares. The work in 1955 continuing Bakhchisaray Rayon can serve as an example of how it is possible to increase the yield of grain fields through the continuous performance of the recommended agricultural methods. However, has been here has probably given the attention to the steeply plowed mountain slopes. It is clear that it is difficult to retain water on such fields and, this means, to grow crops. However, the rayon is constantly getting the highest grain harvests in the tyumen. Even last year the Bakhchisaray farmers obtained 13 quintals per hectare, while a year ago they obtained 9.5 quintals. This year from the first days of sowing literally every hour of good weather has been used in the rayon and it was the first in the district to complete the sowing of early grain crops. Fertilizers, chemical seedling, protecting plants against pests and diseases, the effectiveness of irrigation, and the selection of high yield varieties and hybrids - this is the basic factor for the leading yields in the district. Preference is given to those varieties which under equal conditions produce the highest yield. For example, grain corn last year an average of 45.9 quintals was obtained, and on irrigated fields the figure was 66.6 quintals of grain per hectare. Now 60,000 hectares of arable land have been assigned to the valuable crops. They began with occupy 15,600 hectares. The farmers have committed themselves to take a 70 quintal yield of this crop. A decisive contribution at the creation of a solid feed base has been taken. During these days as much concern is being shown for feed as for grain and there are the raised varieties of sorghum, high yield varieties of barley, rye, oats, wheat, and feed sugar beet. Sowing is accompanied throughout with growing confidence in the tyumen land not only with the breath of warmth, but also through the smile of tractor. Every day around 2,000 of them are brought out onto the fields and they are tended by the skill of operators. During the night the soil is prepared on the farms, and during the day there is sowing. (Extracted from Moscow DEUTSCHA ZEITUNG in Moscow 5 Apr 50 p 1) 2959

IVANOVSKAYA OBLAST PERIODIC WORK - the transportation of organic fertilizers in moving ahead successfully in the district. Last year the schedule has been covered by more than 900,000 tons. Moreover, the work of the district tractors, the labor force and 10,000 units of local fertilizers were delivered to the fields and to Polozov more than 900,000 tons. The Bakhchisaray Rayon is also being overfertilized. Transportation has employed in it 169 mechanized tractors and 30 combines which are equipped with 1,127 tractors and more than 100 trucks. Work and tally more than last year. The total tally up of the result of the competition of the mechanization specialists and drivers has performed every ten days. In the lead are the farmers of Tsykansk, Blyudzy, and Ivanovskiy Rayons [that] (Moscow DEUTSCHA ZEITUNG in Moscow 11 Apr 50 p 1) 2959

RAZNOVSKAYA OBSTO PREDSTAVLJENIYE (bold) on the soilbed. And the crop and variety of the sownseed which is laid in the Standard Agreement of the RPPR and Report on the RPPR improve havent. A. Chukarev an average of 9 to 11 tons of organic fertilizers per hectare is applied year after year. And it is not surprising that here, even during last year which was an arid one, more than 60 quintals of grain crops per hectare and with a yield of 100 green tons was obtained on sandy earth. The example is a convincing and instructive one. However, much remains to tell the truth, we are asked in Tsimlyanskaya Oblast. On many kolkhozes and sovkhozes of the district, who are given to organic fertilizers and, as a result, the tons of tons of grain failed to be harvested. And then a change occurred. Last year the oblast's farms applied 4-5 tons of manure per hectare. Four times more than two to three years ago. "This year," the chief of the agriculture section of the CPNI oblong to Tsimlyansk, "they will apply no less than 6 tons of manure and peat per hectare. More than 800 overall mechanized detachments for getting and delivering fertilizers have been created on the kolkhozes, sovkhozes, the agricultural units "Sokol'skobudka" and "Sokol'skobudka," and also on an inter-farm basis." As a result, during the first three months of this year, more than two and one half million tons of organic fertilizers have been taken out to the fields - as much as was taken out previously in a year. It should be noted that, in addition to this, the extraction of peat and the preparation of peat manure compounds is increasing. (bold) (Thereon TVERSKAYA IN RUMYANOV APR 80 p 11 2959)

PEREDEL'IA RAY. CROP PREPARATION. The sowing of early grain crops has begun in the Perekop'ye - the center of the "Shcheglovskiy" collective in the first the Rzhevsk Tsimlyansk valley have been more than 400 hectares in a day. Compared to last year, sowing in the Ray was delayed on account of unexpected spring snowfall, and the farmers are trying to perform it rapidly. Well-repaired equipment, sufficient seeds, and the existence of large areas of soil which were plowed up in time are helping to perform the sowing in an organized and high-quality manner. (bold) (Thereon ODEK IN RUMYANOV APR 80 p 11 2959)

ALTAISKIY RAY. GRAIN CROP. After having completed repair on the soil cultivation and sowing equipment, the mechanization specialists of the Ray began to put the machinery and implements together. Almost 1000 sowing complexes which have been set up in keeping with the Ray's method have been brought out onto the fields. They will be led by experienced grain farmers who have undergone retraining in course of individual mechanization operator training. Most of the farms have begun the treatment of the seed material with and thermal heating. More than 80 percent of the grain crops seeds correspond to the first and second class of the sowing standard, which is almost 10 percent more than last year's level. (bold) (Thereon BIL'RAYA ZHEN' IN RUMYANOV MAY 80 p 11 2959)

and Kirovskaya, Viatkobezovskaya, Orlovskaya, etc.). The organization of transport to the fields has been organized better than transport within the same of the farms of the Kirovskaya oblast. There the transport department has the necessary permanent drivers, tractors and transport bases created, the necessary equipment has been assigned to them, and the mechanization specialists have a material interest in the results of their work. There are, of course, exceptions. Against a generally good background Shchuchinskaya Rayon. In particular, Shchuchinskaya Rayon has the highest number (6) of the kolkhozes and sovkhozes more slightly more than 100,000 ton of fertilizer with their own transport. But 100% detachments exist only on paper. In Sosnogorsk Rayon, Krasnogorskiy Rayon and Kirovskaya Rayon, the concerned detachments for the transportation of manure and part of the "fertilizer-treated" manure and the Kirov Rayon's Central Transportation Administration are working at a low rate. In the neighboring area, in Viatkobezovskaya oblast, there are 100 detachments for the transportation of fertilizer and, moreover, most of them are fulfilling their assignments efficiently. In order to increase labor productivity, the mechanization specialists of the "fertilizer-treated" work in Al'skanskaya Rayon have increased the working capacity of their transportation equipment. The additional car has been added to each tractor unit and a tractor has been added to each tractor. The result is evident — more than 100,000 ton of organic manure has already been brought out onto the fields by the farms. The local farms are being given good assistance by the subdivisions of the Kirovskaya and by the Andreyevskaya sections of the Viatkobezovskaya mechanized column. Unfortunately, the mechanization specialists of the Kirovskaya Rayon are working behind schedule, although the equipment there is in full swing. On the other hand, the 100% detachment in the Kirovskaya oblast has not been created. There the farms and the many farms of Butyrskaya, Tikhvin Rayon and Kirovskaya Rayon where mechanization of manure has picked up at the Kirovskaya farms. In recent time the field mechanization managers responsible for work on agricultural work important work the farmers of the two neighboring oblasts have planned to substantially increase the strength of a tractor division and to complete the tenth Five-Year Plan in a shorter period. The total 1950-1954 plan will be 2000 in Russia, 4000 in the oblasts.

EVIN ABBE AND ERIC ANDERSON: *Impact of the 1970 rice season in south Khushab* had appeared on the fields of the reported. The members of the agricultural committee of the county council are, however, not too busy to settle the fields for other farmers because of good and timely rains. They are now taking out the timbers, and the *Khushab* will hopefully be supplied directly to the remaining after the rains. The highest determinants have been related to all of this process. The agricultural committee had to deliberate on the fields the arrangement of irrigation and production of mineral fertilizers. That is, *Khushab* will have 3000 ha of irrigation in this area (p. 11, 1970).

GOR'KOVSKAYA OBLAST FERTILIZATION WORK - The oblast's mechanized detachments and links have delivered almost 6 million tons of organic fertilizers to the fields. This is more than during the same period last year. On the kolkhoz 'ment the 60th Anniversary of October in Gorodetskiy Rayon 73 tractors with trailers are engaged in transporting fertilizers and composting. Whereas last year each hectare on the farm received 14 tons of compost, this year this figure will triple. [Text] [Moscow SLL'SKAYA ZHIZN' in Russian 7 Mar 80 p 1] 2959

CSO: 1824

## LIVESTOCK FEED PROCUREMENT

### USE OF GRAIN IN LIVESTOCK FEED PROGRAM REVIEWED

Moscow: SOVETSKAYA ROSTSYA. In: Rostselian. 11 Apr. 80. pp. 1-7.

[Article by V. Buturin, Candidate of Economic Sciences. ("Grain - A General Foundation")]

[Text] The task of cultivating a crop is by no means an easy one. Each quintal of grain obtained involves a tremendous amount of labor by the workers, joys and disappointments, sleepless nights and physically tiring days. Quite often a grain grower is confronted by chronic adverstion and at such times the work becomes even more tiring and difficult.

The campaign to obtain grain never abates in the rural areas. Sowing operations are unfolding at the present time, the farmers are applying top dressing to their winter crops and the last preparations prior to the commencement of the 1980 harvest campaign are nearing completion. Last year the crops sown on the Rostselian fields were harvested by 400,000 combines and 500,000 motor vehicles and a tremendous array of machine operators, kolkhoz members and совхоз workers and also city residents worked out on the fields. The production of 1 ton of grain involved an expenditure of 10-13 manhours and a cost of 70 rubles. But the value of the grain is measured not only in terms of labor and resource expenditures. First of all, grain is considered to be the principal food product required by man. It is an important part of the country's economic might.

Grain production is constantly increasing in the Rostselian Federation. Whereas 15-20 years ago the republic's farms harvested 65-70 million tons of grain, today the figure is twice as great during some years. Nevertheless, we are still experiencing a shortage of grain, especially forage grain. Just as in the past, an important agricultural task is that of increasing grain production in every possible way.

However, the grain deficit can be reduced if we thoroughly analyze and study in detail the manner in which the crops should be utilized. A most important factor for improving the republic's grain balance is that of raising the effectiveness of use of grain in animal husbandry. This branch

and so on) the additional increase of grain. Compared to the seventh Five-Year Plan, when 16 percent of the grain yield of grain was used for forage purposes during the Ninth Five-Year Plan - 50 percent, and during 6 years of the Tenth Five-Year Plan - 56 percent.

Last year, grain consumption for forage purposes increased by almost threefold compared to 1965. It would seem that a corresponding increase would take place in the production of animal husbandry products as greater quantities of grain were consumed in the form of cattle feed. Actually, this did not occur. The rates of growth for the consumption of grain for forage exceed by twofold the rates for an increase in the production of animal husbandry products.

During this period of time, the structure of the feed base changed considerably. Whereas in 1965 grain forage constituted 26 percent of the overall volume of feed expended, 5 years later - 51 percent, and in 1978 - 55 percent.

What explanation can be given for the unjustified growth in the consumption of concentrates? First of all, such growth derives from the substantial changes that have taken place in the distribution of grain feed among the branches of animal husbandry. Compared to 1965, when the republic's cattle consumed one-third of all grain used in animal husbandry, commanding in 1970 practically the same quantity of grain feed was fed to the cattle as was supplied to the hogs and poultry taken together. Commanding in 1965, the production of succulent feed increased by only 13 percent, hay 30 percent, decreased by 16 percent and the consumption of pasture feed by 3 percent.

Haylage began to constitute a large proportion of the coarse feeds. However, owing to violations of the technology for harvesting and storing this crop, its quality is low and in terms of its nutrient content and moisture content it is on a par with silage in the majority of instances.

Almost one-half of the mixed feed being produced by industry at the present time is being used to cover the shortage in other feeds for cattle and this is completely incorrect.

In his report delivered before the July (1978) Plenum of the CPSS Central Committee, Comrade L. I. Brezhnev emphasized that "a completely incorrect trend is being observed in a number of areas. The leaders of some farms, rayons and even oblasts are failing to display proper concern for increasing the production of hay, haylage, silage and root crops, or for improving their quality. They attempt to cover their feed shortage through the use of concentrates, quite often by means of grain obtained from state enterprises. As a result, the consumption of grain for cattle feed increases to an excessive degree and the use of other types of feed even decreases."

The CPSS Central Committee and the USSR Council of Ministers, in the recent decree entitled "Additional Measures for Increasing the Production of

Grain and Concentrated Feed in 1960 and Reducing Their Quality," once again directed the attention of the party, Soviet and agricultural bodies to the fact that annual underutilization of the procurement plans for coarse and concentrated feeds is one of the principal causes of low productivity in cattle and animal husbandry and one which results in a considerably over-expansion of grain and this cannot be tolerated in the future.

According to estimates, grain consumption for the purpose of compensating for shortages in coarse, concentrated and pasture feeds amounts to an average of 10-12 million tons annually throughout the Republic.

In many regions a concentrated type of animal feeding is beginning to predominate in cattle husbandry. In the Talysh-Yazovskaya Oblast for example, whereas earlier the cow ration has contained 20 percent hay, the same amount of concentrated feed, pasture feed - 45 percent and concentration - 35 percent, at the present time the hay proportion has fallen to 7 percent, pasture feed has been reduced by almost 50 percent and the proportion of concentrator has been doubled. For one kilogram of milk the kolkhozes and sovkhozes in Saratovskaya, Vladimirovskaya, Tverovskaya and a number of other oblasts are expending two times more concentrated feed than cattle for in the past.

The concentrated type of feeding is being introduced especially for the fattening of young cattle stock at many farms in Rostovskaya Oblast. The sum of these farms the proportion of mixed feed to the ration reaches 60-70 percent. At the same time, a considerable quantity of grain, coarse and concentrated feed can be obtained here through the efficient use of cultivated land. Thus the possibility exists of sharply reducing grain consumption for feeding purposes.

An increase in the consumption of grain feeds did not exert a substantial effect on the productivity of the cattle. For the RSFSR on the whole, the average milk yield for a cow increased by only 11 percent. Similar results were obtained in the case of weight increases of young stock during fattening operations.

For the same volume of cattle husbandry production which the Republic's kolkhozes and sovkhozes are producing, in accordance with the zonal plan, one and a half times more grain should be allocated than is being consumed at the present time. Obviously, sufficient amounts of coarsely and coarse feeds must be available.

To expand such a large quantity of grain storage for an annual milk yield per cow of 2200-2300 kilogrammes of milk is nothing more than sheer waste. Moreover, the predominance of concentration in the ration for cows, which gives the names of hay, coarse, coarse and concentrated feeds, leads to an expansion in the production and utilization of grain, to directions to an increase in the percentage of carbohydrates to a reduction in the production of animal fat (butterfat of cows). This is why attention must be given to the problem of the large-scale production of animal feeds.

The production of concentrated feed for cattle for the market is still at a low level. The amount of concentrated feed 90 percent of the present time is approximately 10 percent and the daily weight per head increased from 100 to 120 kg. The increase in production is 1100 kg per ton and 100 kg additional feed per head per day. At the same time the cattle feed plants in the medium and large districts have 60 percent concentration and at the present time 15 percent. In Ural'skay, Balkashskay and Kirovskay districts the concentration of the feed is reduced from 15 to 90 percent.

For example, for the sheep the type of feeding, for sheep in the districts like Kostanay, where the feed is only grain or concentrated feed, the sheep die quickly, when they are not fed, there are methods for increasing the meat and wool production of sheep. Towards this end, sheep should be fed with a mixture of potatoes, straw, straw meal, grain meal, protein meal and straw meal, and to the addition the plants. For example, sheep at Kostanay eat type of mixed (potatoes, protein, straw and grain) feeding and with grain meal only, turn to the lamb. Last year, 4 tons of this grain was consumed and the lamb was fed with grain meal, with result of showing that the lambs are sufficed with feed.

The sheep breeders at the Kostanay district. In Kostanay oblast and in Kostanay oblast throughout the Republic began to regard to a more intensive type of the production of concentrated feed. In the autumn

The concentration of feed is also of attention and support. The 31 August 1958 report on the working organization, during the course of developing a breeding, feed and the maintenance, construction plans and the modernization of sheep breeding enterprises, should call for a type of feeding for the sheep that requires the use of grain and other types of feed as well.

As concentrated, should these farms where concentration are used. At the present time only 10 percent grain in feeding feed in the form of artificially balanced feed. Actually, there is not enough coke, spent, different grains, straw, straw and grain meal, salt, chalk and other additives for the planned volume of feed production. The inland feed plants should add to grain for all of these components and then the consumption of grain to get to high.

For some time the country has been a well developed animal husbandry system. The proportion of grain from grain and pulse crops in mixed feeds amounts to only 10-15 percent. The resulting protein content of various concentrations will be 10 percent. In this case the attention to feed the opportunity, the non-grain grain. In mixed feeds amounts to an average of only 30-35 percent, with the remainder being replaced by grain.

The protein content varies in 1000-1200 kg/obst. In the Ural'sk district the production capacity and to increasing the production of feeds of mixed feed districts has been established repeatedly. In the present time it is practically established as a general norm for their production to the

Reported. One is not being made of a tremendous quantity of waste products from the leather and wood working industries and from the felling of trees and shrubs. If the mixed feed industry could be supplied fully with the non-grain components, then an additional million tons of mixed feed could be produced without having to add grain.

By no means is full use being made of the waste products of the meat and dairy industry. The average yield of meat and bone meal for the branch amounts to 60 kilograms per ton of processed bulk, while at the same time individual enterprises of the meat industry are obtaining four times less of this valuable raw material for mixed feeds.

It is obvious that the mixed feed industry must very quickly and sharply increase the production of non-grain components, additives and premixes. This will make it possible to reduce considerably the consumption of grain forage and it will improve the quality of the mixed feeds. Certainly, this is not an easy task. The production capabilities must be increased, the enterprises of the meat, sugar, dairy and microbiological industries must be supplied with suitable equipment, raw material resources must be found and so forth. And this must be done. A steady increase in the production of grain is an equally difficult task. An increase in the production of feed additives will make it possible to expand grain more rationally and, even more important, it will effectively promote an increase in animal husbandry output.

That Comptian should take the position known with regard to this important work. The workers, in light of the requirements set forth during the November (1979) Plenum of the CPB Central Committee, should have displayed initiative and, in the plan for the new five year plan, called for the development of all branch working for the mixed feed industry.

That Ministry [Ministry of Procurement] must perform in a more active manner in connection with the extensive use of non-grain additives. This industry has all the disposal raw materials and all of the components of the mixed feed industry. However, the workers, instead of ensuring the delivery of raw materials, often elect to follow an easier path - to use grain in place of the components in short supply. Very little attention is being given to developing new recipes and technologies for producing mixed feeds containing non-grain components.

Importance is often being attached to the proper use of mixed feed. Every attempt must be made to ensure that each kilogram of mixed feed contains an acceptable measure in animal husbandry output. At the present time, one thousand tons of mixed feed are scheduled to be released annually for feeding and for freezing in the form of counter ration, for supplying the state with grain, meat, milk, flour, sugar, flour and other farming products. On a 1000/1000 ratio, this appears as a degree of the value of output. Such a capitalistic method could be profitably during a period of commodity circulation, but never under conditions involving commodity money circulation.

other difficulties and problems inherent to obtaining concentrated by-products from state farms and they display no concern for increasing the production of grain and feed on the spot. On a number of farms in America and certain other countries, for example, there have been frequent instances in which the supply of concentrates, taking into account the grain due to the form of counter value, exceeds the requirements by 1.5 times.

However, it should be borne in mind that the quantity of feed often consumed at farms where animal husbandry is conducted on a low level and where the feed is utilized at these institutions and workplaces in an inefficient manner. At the same time, many specialized farms consume without concentrates despite the fact that mixed feed consumption for the production of a unit of output is 2-3 times lower here. If 1.6 million tons of mixed feed which are distributed to be used for trade on a planned basis were instead allocated for the purpose of animal husbandry output, it would be possible to obtain 1 million tons of feed from grain, or roughly 1.5-2 times more than at non-specialized farms.

It is our opinion that the existing method for distributing concentrates should be abandoned. At the present time, they are frequently being allocated for the purpose of covering a shortage in coarse and deficient feed which the farms are not producing. Such concentrates should be allocated first of all to those large state specialized animal husbandry enterprises and farms which lack the conditions required for producing adequate quantities of grain and other feeds. The institutions and workplaces in all areas must fully satisfy their own feed requirements using their own resources. Coarse and deficient feed must not be replaced by concentrates, just as grain must not be replaced by vegetables, potatoes or other products in the food of humans. There is nothing that can replace grain and this it must receive the proper care.

The problem of feed protein has become more acute in recent years. A large quantity of grain is being made available to animal husbandry in order to compensate for the protein deficit in the feeds. This also takes the form of grain losses.

Analysis has shown that an increase in the cropping power of agricultural enterprises, including grain crops, will not solve the protein problem. Such a course will increase the gross yield of feeds with no substantial change taking place in their quality. Thus, in many districts, kraze and arid mountain regions, the structure of the areas under crops must be reviewed and the planting of high protein crops expanded.

On an International scale, priority importance is attached to anything with regard to solving the protein problem. Assuming that proper attention is given to this crop, it can play a substantial role for us in augmenting our high value protein resources. The cropping power of anything in the Far East can be raised by 1.5-2 times merely by lowering the acid content

so the additional effect of the reduction of the cost of the sale of feedstuffs. Considerable increases for increasing animal production are available in the European part of the country, where the possibility exists of organizing a more large-scale basis for the country production of these crops, mainly under cultivation conditions.

Certainly, considering the different nature of the arable-land conditions found in the republics, it is wrong to rely solely upon one particular crop. The problem problem must be resolved using all of the high protein forage crops—peas, vetch, lupin and others.

These crops play an extremely important and indispensable role owing to the fact that they contain 2-3 times more digestible protein than do grain crops. However, the production of pulses crops is a number of obstacles and hindrance not only not the marketing, but the fact it is the main cause of a reduction in the growing areas for these crops. For example, over the past 10-12 years the planting of peas in Orenburg Oblast has decreased by more than 50 percent. As a result, the average content of digestible protein in the feed at Brookhaven decreased sharply with the overall difficult marketing 60 percent. In this regard, the actual payment for feed decreased. Other difficulties have developed in many other oblasts and especially in the non-cultivation zone.

The future of the work requires a recommendation to principles of the approach being employed in the improvement of the grain economy. Beyond any doubt, the state requires as much grain as possible and to the required ration. At the present time, a considerable quantity of cereal grains is being fed to livestock and the production of pulses crops is not the answer to the required volumes.

In the interest of creating favorable economic principles for the continued development of pulses crop production, a recommendation should perhaps be undertaken of the payment of price for these crops, with the payable content being taken into account. In addition, the price should call for other measures aimed at stimulating the production and sale of these products to the state.

In order to and as recommended by the resolution of meeting committee in the use of grain and the addition to the measures already mentioned, a large complex of other measures should also be carried out aimed at reducing the productivity of forage crops, raising their yield production, improving the technology for growing, processing and storing feed and reducing the accelerated creation and production. In this regard, it is necessary to improve equipment for feed production.

The implementation of measures aimed at reducing the feed production costs will have a significant effect on the part of any institution and department and practically the entire agricultural complex.

## LIVESTOCK FEED PRODUCTION

### THE PROTEIN LEVEL IN URGALIAN FEED

By V. V. KARPOV, V. V. K. T. B. (Urgalian) & N. B. B. (p. 2)

(Article by A. A. Anichkov, head of Urgalian Zonal Research and Control Laboratory, All-Union State Research and Control Institute of Veterinary Preparations, USSR Ministry of Agriculture, candidate of veterinary sciences, and A. I. Tashkov, candidate of technological sciences on "Protein in Mixed Feed - Why Animal Origin Feed Is of Low Quality")

(Text) - The republican Ministry of Meat and Dairy Industry enterprises produce very valuable feed of animal origin - meat bone and bone meal, a pure milk infant food for calves, powdered milk, etc.

The basic component of meat bone meal is the mixed feed industry, producing infant food enriched with protein and amino acids to satisfy the growing needs of both dairy and poultry farms.

The effectiveness of using feed of animal origin in fattening cattle and poultry and also white fattening young stock is justified by the high animalization rate - 92 percent. This feed is rich in protein, and mineral elements, especially phosphorus and calcium in the required proportion. It contains quite a bit of vitamin, chlorine, vitamin B<sub>12</sub>, fat-soluble vitamins E, A and D.

Scientists at the Urgalian Zonal Research and Control Laboratory of the All-Union State Research and Control Institute of Veterinary Preparations of the USSR Ministry of Agriculture, together with specialists from the Urgalian State Standard Committee, checked a number of meat and dairy industry enterprises. A considerable number of enterprises fulfill the requirements of the standard technical documentation and state standards.

At the Yagotyn dairy, where V. I. Kaplinskii is director, a pure milk infant food for calves is produced and sent to both dairy and poultry farms in the Kirov area. During the last two years no complaints were received at the enterprise about the preparation. The quality is high, mostly top grade. The whole production is stored in the warehouse in shelves in strict adherence to the state standard for this preparation.

consumers are not satisfied with the quality of meat bone meal prepared at the Khar'kov meat combine headed by A. I. Ivanov. Laboratory testing of one batch of this meat based on appearance, texture, forward appearance, and the content of ground meat and according to physical-chemical characteristics (nitrogen, fat content, ash, protein, mineral, moisture, adhesiveness and cellular structure) showed that this product meets the standard. Technical documentation and state standard requirements.

At the same time in a number of enterprises, efforts to documentation were exerted in the production of meat bone meal. At the Dnepropetrovsk meat combine (D. A. Kondratenko, director) the antibiotic Bantoklin was added to the meat. Irregularly, other technical violations were also evident. Because of insufficient storage space, storage conditions of raw materials and finished production do not meet standard requirements. The production laboratory is not fully equipped with measuring and testing technology. The combine has no standard test department.

At the Zapovedny meat combine (V. P. Petukhov, director) the antibiotic is not added to the bone meat either. Requirements for the storage of finished production are also violated.

Only a few shortcomings were permitted at the Voskresensk meat combine, under the directorship of V. N. Lyubchenko. In the first of two batches of meat bone meal tested it was evident that the protein content at a norm of 30 percent was in fact 46 percent, mineral adhesiveness correspondingly 7 and 10.7. In the second batch, the meat nitrogen content at a norm of 6.5 and more than 200 nm were actually 70% protein. Instead of 46 percent only 6% mineral adhesiveness instead of 7.7 percent.

The basic reason for the lack of adherence to standard requirements is violation of technical production discipline. The vacuum line in the meat combine does not work fully. In freezing the pulp drying time is not conveyed mechanically to be pulverized and sifted. The entire process has to be done manually from meat and bone meat, this to done by hand.

The standard technical documentation for meat technology. There are no technological rules for thermal treatment of raw materials. The laboratory testing equipment and instruments and, therefore, cannot control production quality.

Because of those violations of state standard requirements in meat bone meal production and the low quality, economic norms have been applied to the management of the Voskresensk meat combine.

Things are not any better at the 47th Food shop of the Rostovsk meat combine in the Rostovsk oblast (D. P. Petukhov, director). The shop is

located in a small town and with little space, not done and meet the elementary requirements for steady animal or light feed production. The number is old and in disrepair. There is no storage warehouse for the finished products.

A batch of feed equipment was located at this enterprise. The stock production was rejected because of absence of standard metal required in the contracts.

Implementation violation of standard technical documentation, and lack of adherence to state standards lead to the lowering of animal or light feed quality, which in the turn leads to a positive influence in meat feed production. This affects animal and poultry productivity negatively.

In the enterprises checked, animal or light feed production stages, especially meat bone meal, are to be found in the "backyard". They are poorly equipped. The work is unhygienically checked by unqualified and combine administration as well as production management of the meat industry, the meat administration of meat industry (in the Ministry of Health) (Ministry of Health, Heat and Dairy Industry, MoH). This is one of the chief reasons for the low quality production.

The impression is that there is no one at the meat combine and administration of meat industry who could concern himself with an increase in the quality of animal or light feed.

The animal feed industry has a great responsibility in the range of meat bone and bone meal. Being aware of this, individual meat combines are convinced that animal feed factories will take everything that the animal protein production without concern for quality.

Individual enterprises of animal feed factories should strengthen the quality control of animal or light feed starting from meat combine. In case of their not meeting out standards, animal feed enterprises must report their complaints to the supplier. We find that the approach to the important matter will take the responsibility of the enterprises of the Ministry of Heat and Dairy Industry of the MoH, but for the preparation of high quality production.

The report to the Ministry of Heat and Dairy Industry, in our opinion, has to review the preparation of animal or light feed in the enterprises and to apply measures towards improving their work.

## PROBLEMS, PROBLEMS IN MAINTAINING HEALTH OF NEW-BORN CALVES

BRUNO DEUBRAYA 2012/01/10 Ruslan N. Pob 00 p. 1

(Article by M. Urban, Academy of Agrarian Academy of Agricultural Sciences, Tomáš V. L. Lánsky - "Healthy Young Stock - A Priority Area")

Health of the calf is the most important factor in the health, healthy and, also, the long life given, including man with other. However, after several days have passed, the calf begins to get away from a healthy manner. The same happens to a cow, also, health, health... Finally the veterinarian doctor gives the diagnosis, about in the opinion of a severe condition - body temperature, which is abnormal, the body temperature - instead of normal, begins to rise, and even, very weak and cannot stand, causes their death.

Recently, international and research teams have carried out some studies and they have revealed the cause of this phenomenon. The prenatally developed, the calf is completely dependent upon how well the cow feeds. During this period, the cow is not supplied with a sufficient amount of full-value and high-quality feed, the calf will suffer.

In particular, a great amount of importance in this regard is attached to the last month of pregnancy - the eighth and ninth months. This is why it is so important to ensure that pregnant cows are fed in a timely manner and allowed to overfeed slightly. It is dangerous during this period to supply them with the feed containing performance substances - either used as a supplement to feed or found in feed, such as cage, containing hydrolyzed and other substances. During this period, the body of a cow is capable of accumulating performance substances that are delivered together with the feed and these substances enter the organism of a new-born calf with the first first portion of colostrum.

In addition to being a natural colostrum, colostrum other products can also affect the effects of immune factors. All of the products and factors produced by a cow are transmitted in the colostrum - these and factors, which are distributed to a new-born calf in a stable form, under the control and protect the calf against harmful microorganisms and toxins.

derived from a failure of the animal which prevents a normal and orderly utilization of the Esophageal Crops. This is why, when infection enters the stomach and directly reaches the intestinal tract, the conditions for E. development to a healthy and normal Esophageal condition are created here for the propagation of normal Esophageal E. and unhealthy ones. For the infected microorganisms. In addition, the infection contains many of E. faecalis.

Let us take E. faecalis A. Immediately following birth, the amount of E. faecalis A. in a newly-born calf is budgeted. The amount is supplemented with the E. faecalis portion of infection. If we arbitrarily accept the amount of E. faecalis A. in the E. faecalis portion as being equal to 100, then in the fourth portion E. will be only 10 percent. Thus, in order to prevent disease, a calf should be fed as much infection as possible and as early as possible, during the first 24 hours. However, it must be borne in mind that a single dose feeding of a calf is very harmful. Rather, the dosage of infection should be increased by more frequent feedings. Ideally, E. should be given 6-8 times during a 24-hour period. The infection must always be fresh and have a temperature of no lower than 10 degrees.

Recently the farms have been making more frequent use of cattle yard houses for their calving operations, with the calves remaining with the cows during their first days of life for nursing purposes. This method reduces sharply the mortality rate for calves and E. prevents dyspepsia.

This disease arises when, owing to a metabolism breakdown and a change of diet of pasture and ferment, conditions are created which bring about a change in the composition of the microorganisms in the upper intestine. Parasites and other accumulates here and feed decomposed with the formation of toxic substances. The microorganisms change their properties and become pathogenic, with a mutual interaction of the harm they cause taking place in communities of such microorganisms. Although these microorganisms do not individually affect animals or cause them to become poisoned, nevertheless, when in association their pathogenic properties are so strong that even in comparatively small doses they lead to the destruction of laboratory animals. This has been borne out repeatedly in experiments. The greater the number of these microorganisms in the environment, the easier they are able to penetrate the organism of a calf and the more severe the disease and the greater difficulty encountered in achieving recovery.

A concentration of animals in a small area (and this is typical of either infections) creates conditions for the accumulation of microorganisms in the environment. Besides passing back and forth (transmitting from one animal to another) changes their properties. A specific infection disease arises based upon the particular conditions prevailing on a farm. The causative agent can be different microorganisms—viruses, bacteria or fungi.

What conclusions can be drawn from the above? First of all, E. to completely ensure that in a disease of calves, regardless of the infection which E. may

develop, individuals participate actively. It can quickly become active, accumulate to large quantities and complicate the course of the disease. And if timely and sufficient measures are not undertaken, a severe infectious disease may flare up that will be very difficult to combat. Hence, the veterinary sanitary rules must be observed to a very strict manner. If all diseases are to be prevented, however, microorganisms must not be allowed to accumulate in the birth department or veterinary dispensary, particularly on large farms and complexes where the danger is especially great.

Definite measures should ideally be carried out for the purpose of preventing the accumulation of microorganisms and for disrupting the aseptic chain. Thus, on large farms where more than 200 cows are maintained, no less than two birth departments should be built. When one is occupied, the other to undergo cleaning or disinfecting. Thus a very important condition of animal husbandry is observed - the operation of facilities according to the principle "everything in operation, everybody busy."

The birth department is intended to be especially clean and orderly manner - all excretions are removed immediately and the contaminated sections of the floor or walls disinfected. All calves to the department is disinfected daily using the bedding method. The skin of the udder of newly calved cows is washed with a warm disinfecting solution prior to milking and the first jets of the secretion and milk are expressed into a separate container. Ideally the operational period for the department should be reduced to a minimum, so that only one group of animals passes through it without interruption. If, for example, the department was developed for 20 animals, then it should never be filled to excess of this number.

The veterinary dispensary for calves on large farms must have isolation sections (no more than four), which is filled with calves as rapidly as possible and in any case for no longer than 1-2 days. The calves are kept in individual cages, to which are fastened small milk cans with a nipple for milk. All surfaces to cleaned and sterilized using the bedding method. All calves are removed simultaneously from the section and subsequently it is cleaned, washed, disinfected and dried out. The principle "everything in operation - everybody busy" is also in operation here.

The leading farms have developed an entire series of measures aimed at ensuring healthy offspring and the effective prevention of disease in newly born calves. These measures are based upon strict care feeding and maintenance of pregnant cows and calves, a high sanitary-epidemiological level for the carrying out of calving, strict feeding of calves, preventing calves from being harmed by infections and also highly skilled animal husbandry personnel.

## MILK PRODUCTION PROCUREMENTS IN ALTAYSKIY KRAY

Moscow PRAVDA in Russian 16 Feb 80 p 1

[Article by V. Sapov (Altayskiy Kray): "How To Repeat Experience"]

[Excerpts] There are many other experts throughout the kray who are achieving new heights.

Milk procurements have increased in Altayskiy, Zav'yalovskiy, Shipunovskiy and a number of other rayons. At the same time, milk sales in Zarinskij and Tyumentsevskiy rayons was almost two times less than the figure for the same period last year. The daily milk yields on farms in Krasnogorskij and Mikhaylovskiy rayons decreased by one third.

What caused these decreases? Indeed a majority of the sovkhozes and kolkhozes throughout the kray have adequate quantities of coarse and succulent feed at their disposal. Quite often the forage is consumed in an inefficient manner. For example, one half of the farms use straw in an unprepared form. Only rarely is use made of carbamide additives or yeastng of fodder. The low level of zootechnical work also exerts an adverse effect. On farms in Kosikhinskiy and Yel'tsovskiy rayons the barrenness of the cows reaches 23-25 percent.

As is known, success in any endeavor is achieved on the basis of well thought out organizational work. Formerly the Vlast Truda Sovkhoz was considered to be an efficient enterprise. Gradually its indices began to deteriorate. The farm's leaders and specialists display very little concern for the working conditions or for the cultural and domestic services being made available for the workers. A club in the Fourth Department was closed down. No facilities were available in which to conduct lectures. Only rarely did the propaganda team visit the livestock breeders. The recreation and reading room was neglected.

The leaders of the Soloneshenskiy Sovkhoz neglected the road leading to the farms. Last year the truancy here amounted to approximately several thousand man-days. A committee for combating violations of labor discipline,

attached to the Zolotushenskly Village Sovzhet, and the comrades' courts are not operating. The board of directors and the workers' committee have also neglected this sector of educational work. Attempts by the party committee to restore proper order on the farm amount to nothing more than good intentions.

The competition serves as a fine means for repeating experience. The Sibtraktyle Ognt Sovkhoz in Zarinskly Rayon is praised for its fine expertise in the production of milk. Here the milk yields are increasing in a stable manner and improvements are being realized in the farm indices. Last year the farm over-fulfilled its plan for the sale of milk to the state. Approximately 60,000 rubles of profit were realized from the sale of this product. Yet the collectives of the neighboring Ument zhdenov, Ument Tel'man and Rodina kolkhozes fell behind in their deliveries of many products to the state.

These contrasts were discussed on more than one occasion from the tribune of plenums of the Zarinskaya Municipal Party Committee and during rayon conferences for specialists. There was one solution: develop feed production similar to the manner in which this work is being carried out at the Sibtraktyle Ognt Sovkhoz. Nevertheless, the remaining farms are still just studying this valuable experience. Even the existing feed preparation shops are being utilized to only one half their capability or not at all. For example, this is the third year that such a shop at the Za Kommunistem Kolkhoz has not been in operation. Meanwhile, the rayon agricultural administration has reported that all of the feed preparation shops are operating at full capability.

Last year the kray's farms did not fulfill their plan for selling milk to the state. Compared to 1978, milk production during 1979 increased by only 1 percent. An average milk yield of 2,177 kilograms was obtained from each cow. The agricultural administration of the kray executive committee was responsible to a considerable degree for such low rates of growth. It exercised only weak control over lower subunits and it did not devote sufficient attention to the organization of work in the various areas.

Good milk production does not develop of and by itself. Leading workers must be developed by creating the conditions required for a true working rivalry. The experience of the best workers and farms must be made available to all farm collectives.

## LIVESTOCK

### MILK PRODUCTION PROBLEMS IN KUYBYSHEVSKAYA OBLAST

Moscow SOVETSKAYA ROSSIYA In Russian 6 Mar 80 p 1

(Article by A. Bochkarev (Kuybyshevskaya Oblast): "Experience of Leading Workers -- For Each Farm")

[Text] Winter in the central Volga region was calm, with snowstorms appearing only infrequently. However, these snowstorms did not hinder the successful carrying out of the livestock wintering program. Feed was supplied to a majority of the farms and complexes in advance, during the autumn months. Approximately 500 feed preparation shops and feed preparation houses are operating in a reliable manner.

The First Secretary of the Volzhskiy Rayon Party Committee, N.N. Roshnov, stated:

"The wintering is proceeding normally and the people are working in a confident manner. When discussions were held on the farms concerning the degree of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee on launching a competition among the livestock breeders, all of the possibilities were thoroughly weighed. Our chief reserve is that of high quality feed preparation. This is why this problem was under the control of the party organs from the very beginning of the wintering program. As a result of such attention, the rayon's entire milking herd -- more than 23,000 cows -- is being supplied with feed that is delivered only in a prepared form. We are making full use of various additives, including malt and pulp residues obtained from processing enterprises in the city. All of this confirms our estimates and at the same time it ensures the successful carrying out of the plans and obligations of the farm collectives."

Great importance is also attached to other factors -- breeding work, the formation of a herd and achieving increases in the milk yields of cows. At the present time, it is by no means an accident that during this period of mass calving operations the farms in Volzhskiy Rayon are making extensive use of the experience of the livestock breeders of the Progress Kolkhoz, who

have already introduced a system of departmental organization of farm operations. For 3 years now a dry cow yard, a birth department and a calf yard have been in operation here, with the animals being maintained on a special ration and receiving special care. In the milking yard, upon which the productivity of a herd is dependent in the final analysis, each individual is interested from both a social and material standpoint in achieving high yields — only after this has been accomplished are their animals transferred to the industrial herd.

This type of production organization is being introduced into operations successfully at the present time by the Livestock breeders at the Pobeda and Pust' Lentsha kolkhozes, at the Suyabliyayevsky and Rubashnyy sovkhozes and at other farms throughout the rayon. And this has produced results: 40 percent of the milking herd is producing up to 6,500 kilograms of milk annually and 2,600 cows — up to 5,500 kilograms. Control is being exercised over animals producing milk yields of 5,000 to 7,000 kilograms of milk.

During the winter the Livestock breeders devoted special attention to the quality of the milk and they succeeded in raising the first quality output to 91 percent.

The example set by the Volga region natives in the complex solving of the tasks outlined in the resolution of the CPbU Central Committee, the USSR Council of Ministers, the ABOCTU and the Komsomol Central Committee, concerning the competition of the Livestock breeders during the 1979-1980 wintering period, serves as a fine reference point for all rayons in the oblast. As a result of feed processing, which makes it possible to use a forage reserve in the proper manner and with the greatest return, intensive increases in milk yields, the introduction of progressive Livestock maintenance methods and the selection of pedigree and high-yield cows for the industrial herd, the Livestock breeders in Pivdennobol'sky, Tashchinskky, Klyavtinskky, Chalno-Vershinskky and Klyavtovtianinskky rayons are presently obtaining more milk than they did in January and February of last year.

However, a certain reduction is being observed in milk production throughout the oblast as a whole compared to the level for last year. This is occurring mainly owing to the fact that individual kolkhozes and sovkhozes have fallen sharply behind. The leaders of these farms are not attaching sufficient importance to leading experience, they are employing antiquated methods, they are shirking their wintering difficulties and they are blunting the shortcomings noted in organizing the work of the farms on feed shortages and inclement weather.

A snowstorm rages for 2 days over the fields at the Sovkhoz "Imeni Dzerzhinskogo" in Krasnoyarsk'ky rayon — the roads were covered over in some areas and snow drifts accumulated near cow barns and in exercise yards. Subsequently, fine weather prevailed once again. But the snowstorms and drifts were such that the operational rhythm of the farms was disrupted for an extended period of time.

The weather let us down - complained the director of the zavod, Mr. B. Savchenko. The food preparation shop was buried under a snow drift and we had to cease operations. The straw supplied to us had to come from a point 25 kilometers distant and at the present time we are unable to reach the village - snow drifts. Moreover, no truck would leave the village because of snow and thus no equipment is available for clearing the roads.

At the time the director made the above statement, 3 days had already elapsed following the snowfall, during which period of time the crew at the central farmstead of the zavod in Belyovskaya Village had been supplied with almost no coarse feed whatsoever. Yet, prior to the start of the wintering campaign, the zavod's leaders had counted upon the availability of such feed - the farm's straw requirements were met by 150 percent and of hay by only 61 percent. Thus it is difficult to discuss with yields below 40 kilograms of milk per cow at the zavod Dzerzhinsky, two times less than that for the neighbouring Molchansky Rayon. Thus, the threats to disrupt fulfillment of the plan at the zavod as well as throughout Krasnoyarsky rayon as a whole.

Such a situation develops only in an atmosphere of fraudulence and negligence and indifference on the part of the local party and economic organs. For it is they who are responsible for fulfilling in the farm leaders and stipulate a high sense of responsibility for the wintering campaign, for ensuring the extensive dissemination and introduction of the experience of leading farms and rayons throughout the oblast and to make this experience available to each farm, kolkhoz and zavod. This then represents the main guarantee for achieving success in the development of animal husbandry and in increasing the production of goods.

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## LIVESTOCK

### DECREE ON PRODUCTION, USE OF DAIRY PRODUCTS DISCUSSED

Moscow: IZVESTIYA. In Russian. 1 May 80. p. 2

[Article: "Development of Dairy Industry"]

[Text] The CPSU Central Committee and the USSR Council of Ministers have examined the problem concerned with further improving the use in the dairy industry of skimmed milk, buttermilk and whey and increasing the production of dairy products for the population and protein feeds for animal husbandry and they have adopted an appropriate decree in this regard.

Large-scale measures are outlined in the decree for ensuring proper utilization of milk procured by the state. The industrial processing of skim milk and buttermilk must be increased from 14 million tons in 1978 to 27 million tons in 1985 and whey - from 2 to 11 million tons respectively. Considerable increases will take place on this basis in the output of cream for non-fat and low-fat dairy products and also for feeds used in animal husbandry.

Tasks have been established for placing capability in operation, during the 1981-1985 period, for the production of dry skim milk, whole milk substitutes and dry whey and also tasks for the production of the required technological equipment.

The USSR Ministry of the Meat and Dairy Industry is obligated to ensure the technical re-equipping of existing enterprises, the creation of highly mechanized and automated production efforts (departments), involving the complete processing of skim milk, buttermilk and whey, and also the introduction of new and improvements to existing technological processes for the microbiological processing of skim milk and the production from it of milk protein concentrates, and finished goods for baking and confectionery products, ice cream, carbonated non-alcoholic drinks and other products.

The councils of ministers of the union republics, the USSR Ministry of the Meat and Dairy Industry and the USSR Ministry of Agriculture must implement measures aimed at raising the efficiency of use of skimmed milk in animal husbandry.

Capital investments to the amount of 1.1 billion rubles and considerable material-technical resources are being allocated for the creation of a production-technical base for the processing of secondary raw materials to the dairy industry for the Eleventh Five-Year Plan.

The central committee of the communist parties of union republics and the kray and oblast committees must devote greater attention to those problems concerned with the development of the production-technical base for the complex processing of skimmed milk, buttermilk and whey and increasing the production, expanding the assortment and raising the quality of the non-fat and low-fat dairy products and the protein feeds for animal husbandry. In addition, they must actively support the extensive dissemination of the creative initiative of leading collective brigades and specialists in solving these tasks.

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Kiev 811/5/81 VISTI to Ukraine 10 Jan 80 p. 1

*(Article by N. Fedorenko, doctor of agricultural sciences, Zh. Hulevashchuk, candidate agricultural sciences, workers at the Ukrainian Scientific-Research Institute of Agriculture on: "Top Dressing Winter Crops")*

*[Text]* Winter crops entered the winter period basically in good and satisfactory conditions. With appropriate care and favorable wintering these crops can provide a good harvest.

Leading farms applied a considerable amount of fertilizer prior to sowing to ensure normal wheat growth and development. This use of mineral fertilizer promotes effective plant utilization of nutrients and moisture.

Farms which did not apply fertilizer under winter crops prior to sowing, top dressed them in the fall (during plant vegetation) with nitrogen, phosphorus and potash fertilizer. Still, according to data from the Scientific-Research Institute of Agriculture and Livestock Raising of the Western Ukr SSR Rayons, harvest increases in the potash-type chernozem from fall top dressing of winter wheat with full fertilizer (30 kg activated nitrogen per hectare, phosphorus and potash fertilizer) on the average for three years amounted to 6 percent per hectare, when the basic application of the same amount of nourishment yielded ...

In conditions of irregular wintering at the Dnipro research station in the Cherkasskaya oblast basic application of full fertilizer yielded 4.1 quintals of winter wheat per hectare, fall top dressing provided only 2.6 quintals.

Spreading mineral fertilizer over the sowing area (after plant vegetation season) markedly reduces the effectiveness of this agricultural measure. Top dressing winter crops in the winter leads to great nutrient losses during spring floods and pollutes rivers and reservoirs with chemical compounds. Therefore, there is no point to fertilizing snow-covered fields with mineral fertilizers in the winter. This applies primarily to the forest-steppe and woodland zones. In the fields of the Myronivs'ky

Ukrainian-Research Institute of Selection and Wheat-Seed Production, winter-crop increases of grain were as follows: early fall topdressing with nitrogen, phosphorus and potash fertiliser - 6.6 quintals per hectare; late fall - 1.7, spreading mineral fertiliser over snow - 2.5, early in the spring - 4.9 quintals per hectare.

In the southern oblasts (Krymskaya, Krasnodarskaya, and others) there is usually no snow in the winter, and winter crops vegetate in December and even January, crops may be fertilised even in the winter. The expediency of this agricultural measure is confirmed by data from the Ukrainian-Research Institute on Irrigation Agriculture. Applying in January 30 kg of activated nitrogen fertiliser per hectare an increase of 5.8 quintals of grain per hectare was obtained, after spring (March) top-dressing - 3.3 quintals per hectare.

Application of mineral fertiliser to crops in early spring over partially frozen soil has become traditional. This topdressing is more effective than in the fall in the sufficient moisture zone, but is not as effective in zones with unstable and insufficient moisture, where, even if the work is slightly delayed, the fertiliser reaches dry soil, and plants cannot utilise it early.

Winter crops which were not fertilised in the fall (especially if they were allocated after unfallow predecessors) in the spring are spread with 10-15 kg of activated nitrogen fertiliser per hectare and 30-40 kg phosphorus and potash. Nitrogen fertiliser should be applied to crops fertilised in the fall with phosphorus, potash or full fertiliser. Their doses will depend on the amount of nitrogen fertiliser already applied, the predecessor, and the stage of plant development. It must be remembered that application of above crop nitrogen fertiliser can lead to an intensive accumulation of the vegetative mass, and later to crop lodging, and grain loss (especially the "Myronivs'ka-808" and "Sudostroits'ka-51" varieties).

Therefore, under wheat allocated to clean and occupied fallows, where the plants entered winter in a well-developed stage, not more than 30 kg of nitrogen are applied per hectare in the spring using the method (with disk seed-drills), under fertilised winter crops sown after unfallow predecessors 40-45 kg are applied.

To increase the harvest and improve the seed quality of the intensive varieties ("Ulyanivs'ka", "Dolinsk-70") in the sufficient moisture zone, an additional topdressing should be done (during the stem elongation phase) with nitrogen fertiliser, if a sufficient amount was not applied in the fall.

HOW TO IMPROVE THE WINTER CROP GROWTH

Kiev SIBIRSKI VISTI in Ukrainian 12 Mar 80 p 1

*[Article by V. Chonchal, head of the Grain Department, Ukr SSR Ministry of Agriculture on: "Accelerated Winter Crop Growth"]*

*[Text]* The most important goal in agriculture is an increase in the gross grain harvest. Its overall level of production and sale to the state is determined by the winter wheat harvest. The productivity of this most valuable feed crop depends to a large extent on its safe wintering and especially on its condition during the winter-spring period.

One of the basic prerequisites for increasing the winterhardiness and yield of winter crop fields is the creative application of the agrotechnological complex which provides for timely appearance of uniform, even sheets and a good development of the plants in the fall. However, there are some winters when unfavorable weather conditions (ice crusts, a marked temperature drop at the tillering node level) cause damage even to these crops.

It is, therefore, important to systematically inspect the winter crop condition, utilising whatever agricultural measures are needed to lessen the damaging effects of unfavorable weather. The degree of crop damage on individual fields must be determined then as well as the expediency of oversowing or reseeding them.

In addition to monolithic growth, plant capacity to live is determined by less laborious, quick diagnostic methods especially water, sugar solution, coloring with fuchsin acid and the meristematic method. All of these are described in special literature. Yet, these methods are not quite trustworthy; they should be used for obtaining approximate data during very changeable weather.

One of the quick methods to determine plant capacity to live is the method of the system developed by the Dnepro Scientific-Research Institute of Agriculture. It gives results in 16-24 hours. Plants taken out of soil are washed, the roots are completely removed, the leaves - one and

a half cm from the tillering nodes. If the sheath has not tillered, then the length of cut plants should be 2 cm. Plants are then placed in a glass or plastic 0.5-1 liter container. A layer of moistened cotton, cheese cloth or filter paper is placed at the bottom, 9 plants are put in each container. The container is covered with glass, cardboard, plywood or plastic.

Plants are kept in a 24-26 degree temperature for 16 hours, then at 10-15 degrees for 8 hours. This growing process can be accomplished in darkness or light. Healthy plants grow 5-15 mm because of the meristematic tissue. Plants with a growth of less than 1 mm are counted as lost. In recent years this method has been successfully practiced on farms in the Northern Caucasus.

A final review of the state of winter crops in the Rostovkaya oblast is accomplished through the method of temporary small hothoods. A square wooden frame is constructed 10-15 cm in height, the length of one side is one meter. The top part of the frame is covered with polyethylene film. This type of microhabitat is set up in specific places in winter crop fields immediately after snow melting or two-three weeks prior to the expected beginning of spring vegetation. At that point the lower frame portion is covered on the outside with soil, manure or sand.

Under the influence of sun rays the soil in the frame thaws quickly and winter crops renew their vegetation a few days earlier than in the field. This is quite a dependable method of determining crop survival, the sprouting intensity of the above ground mass and roots of wheat. This method of determining winter crop living capability in the last phase of wintering should be widely utilized on the farms of our republic.

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